

# **4<sup>th</sup> Biennial CALFED Science Conference 2006**

## **Making Sense of Complexity: Science for a Changing Environment**

**OCTOBER 23-25, 2006**

**Sacramento Convention Center  
1400 J Street, Sacramento, California**

**The Biennial CALFED Science Conference** is a forum for presenting scientific information and ideas relevant to the CALFED Bay-Delta Program's goals and objectives in the California Bay-Delta, its watershed, and the adjacent coastal ocean. The goal of the conference is to provide new information (i.e., results, models, syntheses, analyses) to the broad community of scientists, engineers, managers, and stakeholders working on Bay-Delta Program-related issues.

The conference program features a mix of plenary and contributed talks and poster presentations on topical themes of interest. The late afternoon poster sessions and receptions provide an opportunity for discussion between presenters and attendees.

### **Conference Organizing Committee:**

#### **Conference Co-Chairs:**

Larry Brown, USGS  
Anke Mueller-Solger, DWR

#### **Program Co-Chairs:**

Mike Connor, SFEI  
Inge Werner, UC Davis

#### **Poster Session Co-Chairs:**

Bellory Fong, CALFED ERP  
Jana Machula, CALFED Science Program

#### **Logistics Co-Chairs:**

Marcia Brockbank, SFEP  
Karen McDowell, SFEP

#### **Student Judging Chair:**

Ken Lentz, USBR

#### **Web Chair:**

Dusty Boeger, CALFED Science Program

#### **Committee Members:**

Randy Brown, DWR, retired  
John Cain, NHI  
Keith Coolidge, CALFED Program  
Jeanie Esajian, CALFED Program  
Roger Fujii, USGS  
Lauren Hastings, CALFED Science Program  
Kathy Hieb, CDFG  
Jeff McLain, NMFS  
Rhonda Reed, CALFED ERP  
Michelle Shouse, CALFED Science Program  
Paula Trigueros, SFEP  
Kim Webb, USFWS



**SCIENCE CONFERENCE**

**CALFED Science Conference**

**October 23–25, 2006**

**Sacramento Convention Center**



## Schedule at a Glance

### Monday, October 23, 2006

rooms **311-315**

#### Plenary Session

8:00 AM  
Registration

9:00–10:20 AM  
Plenary Session

10:20–10:40 AM Break

10:40 AM–12:10 PM  
Plenary Session

12:10–1:20 PM Lunch

room **306**

#### Migrating Fish and Rivers

1:20–3:00 PM  
**Sturgeon (I)**  
William R. Poytress, USFWS

room **307**

#### Rivers and Wetlands

1:20–3:00 PM  
**Lessons Learned from Post Project Appraisals (I)**  
Peter W. Downs, Stillwater Sciences

room **308**

#### Long-Term Challenges

1:20–3:00 PM  
**Levees (I)**  
David M. Mraz, DWR

room **314**

#### Water and Sediment Quality

1:20–3:00 PM  
**San Joaquin River Water Quality (I)**  
Peggy W. Lehman DWR

room **315**

#### Science and Management

1:20–3:00 PM  
**Indicators as Tools for Connecting Science and Management (I)**  
Jana Machula, CALFED Science Program

3:00–3:20 PM Break

3:20–5:00 PM  
**Sturgeon (II)**  
Joshua A. Israel, UC Davis

3:20–5:00 PM  
**Lessons Learned from Post Project Appraisals (II)**  
Mark R. Tompkins, UC Berkeley

3:20–5:00 PM  
**Levees (II)**  
Roger Fujii, USGS

3:20–5:00 PM  
**San Joaquin River Water Quality (II)**  
Peggy W. Lehman DWR

3:20–5:00 PM  
**Indicators as Tools for Connecting Science and Management (II)**  
Jana Machula, CALFED Science Program

5:00–7:00 PM POSTER SESSION AND RECEPTION—Exhibit Hall B (First Floor)

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### Conference Schedule

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Tuesday, October 24, 2006 6–8  
Wednesday, October 25, 2006 9–11

**Poster Session** 12–15

**Registration Information** 15

*\*Student presentations are denoted with an asterisk.*

# Tuesday, October 24

8:30–10:10 AM <b>Sacramento River Ecological Flows (I)</b> David Marmorek, ESSA Technologies	8:30–10:10 AM <b>Cosumnes River</b> James F. Quinn, UC Davis	8:30–10:10 AM <b>Aquatic Invasive Species (I)</b> Nicole A. Dobroski, California State Lands Commission	8:30–10:10 AM <b>Mercury (I)</b> Richard Looker, SF Bay Water Board	8:30–10:10 AM <b>Pelagic Organism Decline (I): Introduction</b> Ted R. Sommer, DWR
10:10–10:30 AM <b>Break</b>				
10:30 am–12:10 PM <b>Sacramento River Ecological Flows (II)</b> Peter W. Downs, Stillwater Sciences	10:30 am–12:10 PM <b>Yolo Bypass</b> Kelly L. Smalling, USGS	10:30 am–12:10 PM <b>Aquatic Invasive Species (II)</b> Jeffrey J. Herod, USFWS	10:30 am–12:10 PM <b>Mercury (II)</b> Jay A. Davis, SFEI	10:30 AM–12:10 PM <b>Pelagic Organism Decline (II): Toxic and Disease Effects</b> Richard S. Breuer, DWR
12:10–1:10 PM <b>Lunch</b>				
1:10–2:50 PM <b>River Bed Dynamics (I)</b> Timothy C. Horner, CSU Sacramento	1:10–2:50 PM <b>Floodplains (I)</b> Jeff J. Opperman, UC Davis and The Nature Conservancy	1:10–2:50 PM <b>Aquatic Invasive Species (III)</b> Holly A. Crosson, California Sea Grant Extension Program	1:10–2:50 PM <b>Mercury (III)</b> Carol E. Atkins, CALFED ERP	1:10–2:50 PM <b>Pelagic Organism Decline (III): Food Web and Invasive Species Effects</b> Anke B. Mueller-Solger, DWR
2:50–3:10 PM <b>Break</b>				
3:10–4:50 PM <b>River Bed Dynamics (II)</b> Gregory B. Pasternack, UC Davis	3:10–4:50 PM <b>Floodplains (II)</b> Jeff J. Opperman, UC Davis and The Nature Conservancy	3:10–4:50 PM <b>Drinking Water Quality</b> Cindy Messer, DWR	3:10–4:50 PM <b>Mercury (IV)</b> Chris G. Foe, CVRWQCB	3:10–4:50 PM <b>Pelagic Organism Decline (IV): Operations and Flow Effects</b> Steven D. Culberson, CALFED Science Program
5:00–7:00 PM <b>POSTER SESSION AND RECEPTION—Exhibit Hall B (First Floor)</b>				

# Wednesday, October 25

8:30–10:10 AM <b>Central Valley Salmonids (I)</b> Richard M. Sitts, MWD	8:30–10:10 AM <b>Wetland Restoration (I): Managing Landscape Trajectories</b> Robin M. Grossinger, SFEI	8:30–10:10 AM <b>Climate Change (I): CALFED's Climatic Setting</b> Michael D. Dettinger, USGS	8:30–10:10 AM <b>Pyrethroids: Laboratory Methods &amp; Environmental Effects (I)</b> Daniel R. Oros, SFEI	8:30–10:10 AM <b>Estuarine Ecology (I)</b> Kathryn Hieb, CDFG
10:10–10:30 AM <b>Break</b>				
10:30 am–12:10 PM <b>Central Valley Salmonids (II)</b> Jeffrey S. McLain, NMFS	10:30 am–12:10 PM <b>Wetland Restoration (II): Sediment Processes</b> Robin M. Grossinger, SFEI	10:30 am–12:10 pm <b>Climate Change (II): CALFED's Climatic Future</b> Jamie D. Anderson, DWR	10:30 am–12:10 PM <b>Pyrethroids: Laboratory Methods &amp; Environmental Effects (II)</b> Debra Denton, US EPA	10:30 am–12:10 PM <b>Estuarine Ecology (II)</b> Randall D. Baxter, CDFG
12:10–1:10 PM <b>Lunch</b>				
1:10–2:50 PM <b>Central Valley Salmonids (III)</b> Cesar C. Blanco, USFWS	1:10–2:50 PM <b>Wetland Restoration (III): North Bay Case Studies</b> Michelle K. Orr, PWA Ltd.	1:10–2:50 PM <b>Climate Change (III): DWR/USBR Responses to Climate Change</b> Francis Chung, DWR	1:10–2:50 PM <b>Non-Point Source Pollution</b> Jeanette E. Wrynski, Yolo County Resource Conservation District	1:10–2:50 PM <b>Fish Physiology</b> Robert W. Fujimura, CDFG
2:50–3:10 PM <b>Break</b>				
3:10–4:50 PM <b>Central Valley Salmonids (IV)</b> David H. Hu, USFWS	3:10–4:50 PM <b>Wetland Restoration (IV): Monitoring and Modeling Faunal Responses</b> Michelle K. Orr, PWA Ltd.	3:10–4:50 PM <b>Long-Term Options for the Delta: Scientific Insights and Management Approaches</b> Ellen Hanak, PPIC	3:10–4:50 PM <b>Managing Contaminated Sediments</b> Michael S. Connor, SFEI	3:10–4:50 PM <b>Riparian Habitat Restoration</b> Thomas F. Griggs, River Partners
4:50 PM <b>Adjourn</b>				



# Monday, October 23

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rooms 311-315

## Plenary Session

- 8:00 AM **Registration**
- 9:00 AM **Welcome**  
Ron Ott, Ph.D. Deputy Director for Science, CALFED Science Program
- 9:10 AM **The Art—and Science—of Policy Making in the Delta**  
Mike Chrisman, Secretary for Resources
- 9:30 AM **Complex Systems Theory, Post-Modernism, and Science and Scientists in the CALFED Era**  
Kenneth A. Rose, Department of Oceanography & Coastal Sciences/Coastal Fisheries Institute, Louisiana State University
- 9:55 AM **Bridging the Gap between Science, the Press and Public: How Can We Better Tell Our Story?**  
Patricia A. Conrad, Department of Pathology, Microbiology & Immunology, School of Veterinary Medicine, University of California at Davis
- 10:20 AM ————— **Break** —————
- 10:40 AM **New Orleans and Hurricane Katrina: Lessons for California's Levees**  
Raymond B. Seed, Civil & Environmental Engineering, University of California at Berkeley
- 11:05 AM **POD: Pelagic Organism Decline or Price of Development?**  
Ronald T. Kneib, University of Georgia Marine Institute
- 11:30 AM **The Promise of Microarrays and Proteomics Approaches to Assess Endocrine Disruption in Fish**  
Nancy D. Denslow, Department of Physiological Sciences, University of Florida
- 11:55 AM **Questions for Plenary Speakers**
- 12:10 PM ————— **Lunch** —————

room 306

### Migrating Fish and Rivers

**Sturgeon (I)**  
Session Chair:  
William R. Poytress, USFWS

- 1:20 PM Spawning Migration and Habitat of Green Sturgeon, *Acipenser medirostris*, in the Sacramento River  
Joseph C. Heublein\*, UC Davis

- 1:40 PM Determining Annual Green Sturgeon Spawner Abundance Estimates in Sacramento River Reaches Using Kinship Partitioning  
Joshua A. Israel\*, UC Davis

room 307

### Rivers and Wetlands

**Lessons Learned from Post Project Appraisals (I)**  
Session Chair:  
Peter W. Downs, Stillwater Sciences

- River Restoration in California and the National Context: Results of Database Development and Interviews with Practitioners  
Rebecca A. Lave, UC Berkeley

- Learning from Post-Project Appraisals of Urban Stream Restoration  
Shannah D. Anderson, UC Berkeley

room 308

### Long-Term Challenges

**Levees (I)**  
Session Chair:  
Dave M. Mraz, DWR

- Hydrologic Hazards Analysis for the Delta Risk Management Strategy  
Phillip R. Mineart, URS Corporation

- Geomorphic-Based Mapping of Levee Foundation Materials: A GIS Database for the Lower Sacramento-San Joaquin Delta  
Christopher S. Hitchcock, William Lettis & Associates, Inc.

room 314

### Water and Sediment Quality

**San Joaquin River Water Quality (I)**  
Session Chair:  
Peggy W. Lehman, DWR

- Diel Phytoplankton Dynamics in the San Joaquin River Resulting from Growth-Transport Processes  
Randy A. Dahlgren, UC Davis

- Analysis of San Joaquin River Flow and Reconstruction of Missing Data  
Leiji Liu, DWR

room 315

### Science and Management

**Indicators as Tools for Connecting Science and Management (I)**  
Session Chair: Jana Machula, CALFED Science Program

- The Promise and Perils of the Environmental Indicators: The Chesapeake Bay Experience  
Michael F. Burke, Chesapeake Bay Program

- Development and Use of Indicators within the Comprehensive Everglades Restoration Plan  
Kimberly J. Chuirazzi, South Florida Water Management District

2:00 PM	<b>Potential Environmental Impacts on Reproduction of Green and White Sturgeons</b> Serge I. Doroshov, UC Davis	<b>Learning from Dam Removal Appraisals: Four Case Studies in Northern California</b> Alicia N. Gilbreath*, UC Berkeley	<b>Characterization of Earthquake Ground Shaking Hazard for Input into the Delta Risk Analysis</b> Ivan G. Wong, URS Corporation	<b>High Resolution Fluorescence Monitoring Reveals Factors Controlling Algal Loads</b> Solomon S. Henson*, UC Davis	<b>A Framework For Using Indicators to Increase Science Integration, Support Adaptive Management, and Assist in Resource Management of the San Francisco Bay Delta</b> Donna Podger, CALFED Science Program
2:20 PM	<b>Modeling Green Sturgeon Habitat in the Central Valley</b> Ethan Mora, UC Santa Cruz	<b>Lessons Learned from Gravel Augmentation to Improve Salmon Spawning Habitat below Dams in Northern California</b> J. Toby Minear*, UC Berkeley	<b>Delta Geodetic Control Network, 1997 and 2002 Surveys</b> Marti E. Ikehara, National Geodetic Survey, NOAA	<b>Tracing Phosphate Sources in Aquatic Ecosystems Using the Oxygen Isotopic Composition of Phosphate</b> Megan B. Young, USGS	<b>Developing Indicators of CALFED Drinking Water Quality Program Performance</b> Lisa M. Holm, CALFED Drinking Water Program
2:40 PM	<b>A Glimpse at Feather River Sturgeon</b> Alicia M. Seesholtz, DWR	<b>Systematic Post-Project Appraisals (PPAs) of Compound Channel Restoration Projects in the San Francisco Bay Region</b> Mark R. Tompkins*, UC Berkeley	<b>Levee Fragility</b> Said S. Salah-mars, URS Corporation	<b>Use of PLFA Biomarkers to Study Algae Dynamics in the Upper San Joaquin River</b> Sharon E. Borglin, University of the Pacific	<b>Integrated Science Improves the Effectiveness of Indicators in Management</b> Susan L. Anderson, Independent Consultant

3:00 PM  **B r e a k** 

<b>Sturgeon (II)</b> Session Chair: Joshua A. Israel, UC Davis	<b>Lessons Learned from Post Project Appraisals (II)</b> Session Chair: Mark R. Tompkins, UC Berkeley	<b>Levees II</b> Session Chair: Roger Fujii, USGS	<b>San Joaquin River Water Quality (II)</b> Session Chair: Peggy W. Lehman, DWR	<b>Indicators as Tools for Connecting Science and Management (II)</b> Session Chair: Jana Machula, CALFED Science Program
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3:20 PM	<b>Abundance, Seasonal and Temporal Distribution Patterns of Age-0 Sturgeon Captured by Rotary Screw Traps at the Red Bluff Diversion Dam</b> William R. Poytress, USFWS	<b>Methods, Trends, and Lessons Learned from Physical Channel Monitoring</b> Rune Storesund, UC Berkeley	<b>Levee Seepage: Case Histories</b> R. Kevin Tillis, Hultgen-Tillis Engineers	<b>Measurement of the Oxygen Isotopic Composition of Dissolved O2: A New Tool for Assessing the Success of Aeration Projects?</b> Carol Kendall, USGS	<b>Assessing Pollutant Impacts on Fish Populations: Integrating Indicators</b> William A. Bennett, Center for Watershed Sciences & Bodega Marine Laboratory
3:40 PM	<b>Passage Efficiency, Behavior, and Stress Responses of Adult White Sturgeon in a Laboratory Fish Ladder</b> J.J. Cech Jr., UC Davis	<b>The Tolay Creek Restoration Project: Lessons Learned from 8 Years of Comprehensive Monitoring</b> Isa Woo, USGS	<b>Subsidence Mitigation and Sediment Accretion in a Restored Wetland on Twitchell Island, Sacramento-San Joaquin Delta, California</b> Roger Fujii, USGS	<b>A Web-Based Conceptual Model of Dissolved Oxygen in the Stockton Deep Water Ship Channel</b> Craig D. Stevens, Stevens Consulting	<b>Developing Wetland Indicators of Ecosystem Function—the Integrated Regional Wetland Monitoring Pilot Project</b> Stuart W. Siegel, Wetlands and Water Resources, Inc.
4:00 PM	<b>Sturgeon-Friendly Passage Structures for Sacramento River and Bay-Delta Region: Flow Condition and Sturgeon Performance Study</b> ZhiQiang R. Chen, UC Davis	<b>Evaluating the Effectiveness of Rehabilitation Actions in Creating Fish Habitat in the Trinity River</b> Darcy C. Pickard*, ESSA Technologies Ltd.	<b>Maximizing Carbon Storage Rates in Restored Wetlands to Mitigate Subsidence of Delta Islands</b> Robin L Miller, UC Berkeley	<b>Loading and Transport of Carbon, Nitrogen and Phosphorus in Central Valley Watersheds: Early Results from a Modeling Approach</b> John A. Harrison, UC Davis	<b>Framework, Tools, and Progress for Comprehensive Monitoring of California Wetlands and Riparian Habitats</b> Joshua N. Collins, SFEI
4:20 PM	<b>Panel Discussion</b> <b>Developing Research and Monitoring for Sturgeon Management</b> Moderator: Joshua A. Israel, UC Davis	<b>Post-Project Appraisals: the Way Forward</b> Peter W. Downs, Stillwater Sciences	<b>New Bioengineering Techniques Prove Successful in Restoration of the Delta In-Channel Islands</b> Richard A. Nichols, LSA Associates	<b>Modeling the Sources of Dissolved Oxygen Impairment in the San Joaquin River Deep Water Ship Channel</b> Joel W. Herr, Systech Engineering	<b>Developing Water Quality and Management Response Indicators for the San Joaquin River Basin at Multiple Scales</b> Anitra L. Pawley, The Bay Institute
4:40 PM		<b>Panel Discussion</b> <b>Lessons Learned from Post Project Appraisals</b> Moderator: Mark R. Tompkins, UC Berkeley	<b>Evaluating Wind Wave Exposure in Delta Environments</b> Robert Battalio, PWA, Ltd.	<b>Panel Discussion</b> <b>San Joaquin River Water Quality</b> Moderator: Peggy W. Lehman, DWR	<b>Indicators, Umbrellas, and Endangered Species: What is Our Monitoring Goal?</b> Christine A. Howell, PRBO Conservation Science

5-7:00 PM  **POSTER SESSION AND RECEPTION—Exhibit Hall B (First Floor)** 

\*Denotes student presenter



# Tuesday, October 24

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room

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## Migrating Fish and Rivers

### Sacramento River Ecological Flows (I)

Session Chair: David Marmorek, ESSA Technologies

8:30 AM Overview of the Sacramento River Ecological Flows Study  
Ryan A. Luster, The Nature Conservancy, Mike D. Roberts, The Nature Conservancy

8:50 AM The Population Dynamics of Winter-run Chinook Salmon and Its Implications for Management  
Frank K. Ligon, Stillwater Sciences

9:10 AM Salmonid Life History Strategies and Shasta Dam: Implications for Managing Mainstem Spawning Populations  
Michael Fainter, Stillwater Sciences

9:30 AM Trends in the Quality and Quantity of Spawning Gravel on the Upper Sacramento River  
Clifford S. Riebe, Stillwater Sciences

9:50 AM **Panel Discussion**  
Sacramento River Ecological Flow Needs  
Moderator: David Marmorek, ESSA Technologies

10:10 AM

room

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## Rivers and Wetlands

### Cosumnes River

Session Chair: James F. Quinn, UC Davis

The Influence of Aquatic vs. Terrestrial Production on Soil Invertebrate Communities in a Floodplain Ecosystem  
Sandra M. Clinton, UNC Charlotte

Ephemeral Floodplain Habitats Provide Best Growth Conditions for Juvenile Chinook Salmon in a California River  
Carson A. Jeffres\*, UC Davis

The Physiological Response of a Riparian Forest to the Duration and Timing of Seasonal Flooding  
John Kochendorfer\*, UC Davis

Population Studies of Riparian Songbirds on the Cosumnes River in Relation to Restoration Status and Flooding: an 11-Year Study  
Nadav Nur, PRBO Conservation Science

A Threat to Restoration or Just Another Ecological Process? Perennial Pepperweed Invasion on a Restored Seasonal Floodplain  
Joshua H. Viers, UC Davis

room

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## Long-Term Challenges

### Aquatic Invasive Species (I)

Session Chair: Nicole A. Dobroski, California State Lands Commission

Directing Policy Development: California's Marine Invasive Species Program  
Maurya B. Falkner, California State Lands Commission

Reducing Nonindigenous Species Release through Commercial Vessel Fouling in California: Considerations, Challenges, and a Way Forward  
Lynn T. Takata, California State Lands Commission

Ships' Hulls as Vectors for the Introduction and Coastwise Spread of Non-native Species  
Gregory M. Ruiz, Smithsonian Environmental Research Center

Shipboard Demonstrations of Ballast Water Treatment to Control AIS  
Lisa M. Swanson, Matson Navigation Company

The West Coast Ballast Outreach Project: Coordinating Ballast Water Information Exchange  
Holly A. Crosson, California Sea Grant Extension Program

room

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## Water and Sediment Quality

### Mercury (I)

Session Chair: Richard Looker, SF Bay Water Board

Mercury and Methylmercury Loads Entering the Bay-Delta from the Mining Impacted Guadalupe River Watershed: Water Year 2003–2006  
Lester McKee, SFEI

Guadalupe River Watershed Mercury TMDL  
Carrie Austin, SF Bay Water Board

Decision Analysis for Prioritizing Mercury Studies for Supporting Total Maximum Daily Loads in Northern California  
William Labiosa, USGS

Methyl Mercury Concentrations and Load in the Central Valley  
Chris G. Foe, CVRWQCB

Transport of Sediment and Mercury to North San Francisco Bay  
Nicole S. David, SFEI

room

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## Science and Management

### Pelagic Organism Decline (I): Introduction

Session Chair: Ted R. Sommer, DWR

Pelagic Organism Decline 2005–2006: Overview of Program and Progress  
Chuck S. Armor, CDFG

Recent Trends in Abundance of Pelagic Organisms  
Randall D. Baxter, CDFG

Regime Changes and Trends in Pelagic Fish Abundances in the San Francisco Estuary—Further Analyses, and a Comparison with Changes in Littoral Fish Abundances Since 1980  
Michael W. Chotkowski, USBR

Delta Smelt Growth and Survival During the Recent Pelagic Organism Decline: What Causes Them Summer Time Blues?  
William A. Bennett, Center for Watershed Sciences & Bodega Marine Laboratory

Spatio-Temporal Variability in Delta Smelt Stock Structure during Pre-POD and POD Years  
James A. Hobbs, Bodega Marine Laboratory

➔ Break ➔

### Sacramento River Ecological Flows (II)

Session Chair: Peter W. Downs, Stillwater Sciences

10:30 AM The Unified Gravel-Sand (TUGS) Model: A Numerical Model to Simulate the Transport of Gravel-Sand Mixtures  
Yantao T. Cui, Stillwater Sciences

10:50 AM Patterns of Sedimentation Observed in Off-Channel Water Bodies of the Sacramento River  
Jose A. Constantine\*, UC Santa Barbara

### Yolo Bypass

Session Chair: Kelly L. Smalling, USGS

Potential Sources of Pesticide Exposure to Native Fish in the Yolo Bypass  
Kelly L. Smalling, USGS

Sources of Invertebrate Drift in a Seasonal Floodplain  
Gina Benigno\*, CSU Chico

### Aquatic Invasive Species (II)

Session Chair: Jeffrey J. Herod, USFWS

Programs and Efforts for Management of Aquatic Nuisance Species: Form and Function of the ANS Program, U.S. Fish and Wildlife Service  
Jeffrey J. Herod, USFWS

Invasive Species Management in California  
Susan R. Ellis, CDFG

### Mercury (II)

Session Chair: Jay A. Davis, SFEI

Mercury in Stormwater, and in the Plants and Fish of a Saltmarsh  
Peter Green, UC Davis

Observed Relationships between Mercury Species and Properties of Dissolved and Particulate Organic Matter Measured In-situ in a Tidal Wetland in the San Francisco Estuary  
Brian Bergamaschi, USGS

### Pelagic Organism Decline (II): Toxic and Disease Effects

Session Chair: Richard S. Breuer, DWR

Water Quality in the Delta: Acute and Chronic Invertebrate and Fish Toxicity Testing  
Inge B. Werner, UC Davis

The Role of Contaminants and Infectious Disease in the Collapse of the Striped Bass Population in the San Francisco Estuary and its Watershed  
David J. Ostrach, UC Davis

11:10 AM	<b>Modeling Bank Erosion and Meander Migration as a Function of River Discharge</b> Eric W. Larsen, UC Davis	<b>Just Add Water: Spatial and Temporal Patterns of Larval, Juvenile, and Adult Fishes within Liberty Island, a Flooded Island in the Lower Yolo Bypass</b> Rick M. Wilder, USFWS	<b>Biological Survey of Non-indigenous Species within the Coastal and Inshore Waters of California</b> Michael L. Sowby, CDGF	<b>Assessing Mercury Loadings from Tidal Systems</b> Jacob Fleck, USGS	<b>Model Construction for Dynamics of Striped Bass Population in the Sacramento River and San Francisco Estuary</b> Frank J. Loge, UC Davis
11:30 AM	<b>Expanding Communicating the Ecological Considerations Used to Evaluate Water Management Alternatives on the Sacramento River</b> Clint A.D. Alexander, ESSA Technologies Ltd.	<b>Use of a Managed Wetland to Enhance Fish Production: Behavior of Adult and Juvenile Splittail</b> Ted R. Sommer, DWR	<b>Efforts to Control <i>Egeria densa</i> and Water Hyacinth in the Sacramento/San Joaquin Delta</b> Geoff H. Newman, DBW	<b>Methyl Mercury Import/Exports in Wetlands in the San Francisco Delta and Tributaries—A Mass Balance Assessment Approach</b> Mark Stephenson, Moss Landing Marine Labs	<b>Assessing Health Status of Delta Smelt Using Histopathologic Biomarkers</b> Swee Joo Teh, UC Davis
11:50 AM	<b>Characterizing Hydrochory along the Middle Sacramento River, California</b> Catherine A. Little, CSU Chico	<b>Yolo Bypass Water Quality Management Plan—Linking Policy to Science</b> Steven A. McCord, Larry Walker Associates	<b>CALFED Non-native Invasive Species Program Overview</b> Lia R. McLaughlin, USFWS	<b>Controls on Mercury-Methylation in Sediments from Freshwater, Delta, and Salt-Marsh Regions of the San Francisco Bay Watershed</b> Mark Marvin-DiPasquale, USGS	<b>Factors Controlling the Seasonal Variation of <i>Microcystis aeruginosa</i> Biomass and Toxicity in the San Francisco Estuary</b> Peggy W. Lehman, DWR

12:10 PM

L u n c h

<b>River Bed Dynamics (II)</b> Session Chair: Timothy C. Horner, CSU Sacramento		<b>Floodplains (II)</b> Session Chair: Jeff J. Opperman, UC Davis and The Nature Conservancy		<b>Aquatic Invasive Species (III)</b> Session Chair: Holly A. Crosson, California Sea Grant Extension Program		<b>Mercury (III)</b> Session Chair: Carol E. Atkins, CALFED ERP		<b>Pelagic Organism Decline (III): Food Web and Invasive Species Effects</b> Session Chair: Anke B. Mueller-Solger, DWR	
1:10 PM	<b>Study of the Roughness Characteristics of Plant Species in California Rivers</b> Levent M. Kavvas, UC Davis	<b>A Conceptual Model for Central Valley Floodplain Processes</b> Jeff J. Opperman, UC Davis		<b><i>Egeria densa</i> in the Sacramento-San Joaquin Delta: Factors Controlling Production and Fragment Establishment Success</b> Toni G. Pennington*, Portland State University		<b>Plant-mercury Interactions: Role of Submerged and Emergent Macrophytes in Mercury (Hg) Cycling of San Francisco Bay and Delta Wetlands</b> Lisamarie Windham, USGS		<b>Foodweb Support for the Threatened Delta Smelt: Subtle Interactions may be a Cause of the Pelagic Organism Decline</b> Wim Kimmerer, Romberg Tiburon Center, SFSU	
1:30 PM	<b>A Budget for Spawning Gravel on the Lower American River</b> David L. Fairman*, CSU Sacramento	<b>In Search of a Remnant Landscape: the Frequently-Flooded Floodplain</b> Elizabeth S. Andrews, PWA, Ltd.		<b>Assessing Progress in Brazilian Waterweed Management in the Sacramento-San Joaquin Delta: An Example from Frank's Tract</b> Scott A. Ruch, ReMetrix LLC		<b>Mercury Cycling and Bioaccumulation in Tidal Marshes along the Petaluma River</b> Donald Yee, SFEI		<b>Determinants of Calanoid Copepod Recruitment Failure in the San Francisco Estuary</b> John R. Durand*, Romberg Tiburon Center, SFSU	
1:50 PM	<b>Comparison of Bed Mobility Downstream of Dams in Major Central Valley Rivers</b> Toby J. Minear*, UC Berkeley	<b>Floodplain Disconnection, Changes in River Corridor Complexity, and Hyporheic Exchange along Lower Deer Creek, Tehama County, CA</b> Mark R. Tompkins*, UC Berkeley		<b>Salinity, Flooding, and Vegetation Create Recruitment Bottlenecks for Perennial Pepperweed (<i>Lepidium latifolium</i>) in Tidal Marshes</b> Renee O. Spent*, UC Davis		<b>Mercury Contamination of Sport Fish in the Delta and its Watershed: Results from the First Year of CBDA Fish Mercury Project Sampling</b> J. Letitia Grenier, SFEI		<b>Zooplankton Trends, Habitat, and Diets in the Upper San Francisco Estuary</b> Anke B. Mueller-Solger, DWR	
2:10 PM	<b>How Riverbed Structures Affect Bed Mobility: Implications for Rehabilitating and Managing Rivers</b> Aleksandra M. Wyzga*, UC Santa Barbara	<b>Modeling of Floodplain Surface Gradients and Riparian Vegetation Spatial Distribution on the Sacramento River and Applications for Restoration Site Analysis and Design</b> Stephen E. Greco, UC Davis		<b>Northern Pike Containment System at the Outlet of Lake Davis on Big Grizzly Creek</b> James L. Newcomb, DWR		<b>Biosentinel Mercury Monitoring in Support of Restoration Management across the Bay-Delta Watershed</b> Darell Slotton, UC Davis		<b>Food in Core Summer Habitat Drives Abundance of Threatened Delta Smelt</b> William J. Miller, Consulting Engineer	
2:30 PM	<b>Permeability Measurements in Salmonid Spawning Gravels of the American River</b> Timothy C. Horner, CSU Sacramento	<b>Event-Based Washload Transport and Sedimentation in and around Flood Bypasses: Case Study from the Sacramento Valley, California</b> Michael B. Singer, USGS		<b>A New Field Method for Measuring Potassium Permanganate Residuals in Water Following Neutralization of Rotenone</b> Robert W. Fujimura, CDFG		<b>Using Biosentinel Fish as a TMDL Target in San Francisco Bay</b> Ben Greenfield, SFEI		<b>Trends in the Benthos of the Upper San Francisco Estuary</b> Marc P. Vayssières, DWR	

2:50 PM

B r e a k

(Continued on page 8)



room

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## Migrating Fish and Rivers

### River Bed Dynamics (II)

Session Chair: Gregory B. Pasternack, UC Davis

3:10 PM The Use of Slope Creation in Gravel Augmentation for Rehabilitating Incised, Regulated Rivers  
Gregory B. Pasternack, UC Davis

3:30 PM Role of Geomorphic Monitoring in Stream Restoration and Coarse Sediment Management, Lower Clear Creek  
Smokey A. Pittman, Graham Matthews and Associates

3:50 PM Morphologic Response of a Restored, Gravel-Bed Reach of the Merced River to Sustained High Flows  
Carl J. Legleiter\*, UC Santa Barbara

4:10 PM Monitoring of Restored Chinook Salmon Spawning Habitat, 2004-2006  
Kate L. Milich, KDH Environmental Services

4:30 PM Two-dimensional Flume Experiments Investigating Sediment Pulses with Applications to Dam Removal and Gravel Augmentation  
John K. Wooster, Stillwater Sciences

4:50 PM

5-7:00 PM

room

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## Rivers and Wetlands

### Floodplains (II)

Session Chair: Jeff J. Opperman, UC Davis and The Nature Conservancy

Mercury Accumulation in Juvenile Chinook Salmon Caged on the Cosumnes Floodplain and Cosumnes River: Reconciling Mercury Uptake and Growth Dilution  
Andrea R. Stewart, USGS

Methyl Mercury Accumulation and Growth in Chinook Salmon Rearing in the Sacramento River and its Floodplain, the Yolo Bypass  
Rene Henery\*, UC Davis

Floodplain Restoration and the "Floodplain Activation Flow"—A Case Study from the Bear River Levee Setback Project  
Andrew J.C. Collison, PWA, Ltd.

Flood Control, Irrigation District Facilities Protection, and Riparian Restoration: Meeting Multiple Objectives on the Sacramento River  
Daniel S. Efseaff, River Partners

Tools for Riparian-Floodplain Restoration Planning along Large River Corridors: Examples from the San Joaquin River, CA  
Bruce K. Orr, Stillwater Sciences

room

308

## Long-Term Challenges

### Drinking Water Quality

Session Chair: Cindy Messer, DWR

An Evaluation of Surrogates Useful for Predicting Disinfection By-product Formation from Delta Waters  
Brian Bergamaschi, USGS

*Cryptosporidium parvum* Transport in Watersheds: Stream-Streambed Interaction and Processes  
Thomas Harter, UC Davis

Modeling Hydroclimatic and Environmental Processes for Quantifying Drinking Water Constituents of Concern at Willow Slough Watershed, California  
Levent M. Kavvas, UC Davis

Dissolved Organic Carbon Concentrations and Reactivity in Surface Water from the Agricultural Willow Slough Watershed  
Brian A. Pellerin, USGS

Collaborative Drinking Water Quality Improvement Projects in the Delta Watershed  
David A. Briggs, Contra Costa Water District

room

314

## Water and Sediment Quality

### Mercury (IV)

Session Chair: Chris G. Foe, CVR-WQCB

Mercury Cycling in a Mine-dominated Ecosystem in Clear Lake, California: from Ore to Organism  
Tom Suchanek, USGS

Mercury Dynamics in Waterbirds: Influence of Reproductive Status and Sex  
Collin Eagles-Smith, USFWS

Cross-seasonal Implications of Mercury and Selenium Bioaccumulation by Surf Scoters from the San Francisco Bay-Delta  
Susan Wainwright-De La Cruz, USGS

Reducing Mercury Risk in the San Francisco Estuary and Watershed: An Ecosystem Strategy for Wetland Design and Management  
Phil Lebednik, LFR Inc., Ecosystems Services Group

### Panel Discussion

Mercury  
Moderator: Chris G. Foe, CVRWQCB

room

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## Science and Management

### Pelagic Organism Decline (IV): Operations and Flow Effects

Session Chair: Steven D. Culberson, CALFED Science Program

Multi-Decadal Habitat Trends: Patterns and Mechanisms for Three Fishes in San Francisco Estuary  
Matt Nobriga, DWR

Hydrodynamic Influences on Historical Patterns in Delta Smelt Salvage  
Peter E. Smith, USGS

South Delta Fish Studies: Do Our Fishes Have Behavioral Problems?  
Lenny F. Grimaldo\*, DWR

POD Conceptual Synthesis  
Bruce Herbold, USEPA

POD 2007 Study Plan: "Are we there yet?"  
Chuck S. Armor, CDFG

Break

POSTER SESSION AND RECEPTION—Exhibit Hall B (First Floor)



# Wednesday, October 25

room 306

## Migrating Fish and Rivers

### Central Valley Salmonids (I)

Session Chair: Richard M. Sitts, MWD

8:30 AM Tools for Pricing, Prioritizing and Managing Ecosystem Restoration Actions  
Jim Watson, Kleinfelder, Inc.

8:50 AM Predicting Benefits to Winter-run Chinook Salmon from Past and Proposed Recovery Actions  
Steven P. Cramer, Cramer Fish Sciences

9:10 AM Use of a Habitat Model to Estimate Potential Benefits to Salmon of Passage Improvements in Small Streams  
Chip McConaha, Jones and Stokes Associates

9:30 AM Potential Effects of Mark-selective Fisheries on Escapements and Harvests of Central Valley Chinook Salmon  
Brian J. Pyper, Cramer Fish Sciences

9:50 AM Comparing Fish Benefits and Costs of Past and Proposed Restoration Projects  
Richard M. Sitts, MWD

room 307

## Rivers and Wetlands

### Wetland Restoration (I): Managing Landscape Trajectories

Session Chair: Robin M. Grossinger, SFEI

Comparing Natural and Modified Tidal Sloughs in Suisun Marsh: Implications for Restoration of Diked Wetlands  
Christopher S. Enright, DWR

Fifty Years of Change in the Structure of a South Bay Intertidal Creek  
Raymond Torres, University of South Carolina

Geomorphic Response of Tidal Channels to Abandoned Delta Islands  
David Brew, PWA, Ltd.

Science and Adaptive Management in the South Bay Salt Pond Ecosystem Restoration  
Lynne A. Trulio, San Jose State University

Are We Getting It Right? Understanding the Changes in Bay Area Watersheds Since 1769  
Robin M. Grossinger, SFEI

room 308

## Long-Term Challenges

### Climate Change (I): CALFED's Climatic Setting

Session Chair: Michael D. Dettinger, USGS

Climate Tracking for California: What Makes Sense?  
Kelly T. Redmond, DRI / Western Regional Climate Center

Incorporating Past Droughts into California's Water Planning  
Scott W. Stine, CSU East Bay

Blue Oak Proxies for California Precipitation and Stream Flow History  
David W. Stahle, University of Arkansas

A Decade of Phytoplankton Increase in San Francisco Bay: Response to Climate Trends (or Something Else)?  
James E. Cloern, USGS

Addressing Sacramento Flood Risks: Atmospheric Rivers, the Hydrometeorological Testbed (HMT) and Next Generation Observations  
F. Martin Ralph, NOAA/ESRL

room 314

## Water and Sediment Quality

### Pyrethroids: Laboratory Methods & Environmental Effects (I)

Session Chair: Daniel R. Oros, SFEI

Contaminant Trends: Pyrethroid Use Patterns in the Central Valley  
Daniel R. Oros, SFEI

Pyrethroid Insecticides: Sampling and Analytical Challenges  
Michelle L. Hladik, USGS

Pyrethroid Pesticide Analyses by EPA Method 8270 mod  
Peter W. Halpin, Caltest Analytical Laboratory

Biomimetic Methods for Detecting Bioavailable Concentrations of Pyrethroids  
Jay J. Gan, UC Riverside

Pyrethroids, Pyrethrins, and Piperonyl Butoxide in Surface Water and Sediment Samples by HRGC/HRMS  
Million B. Woudneh, AXYS Analytical Services Ltd.

room 315

## Science and Management

### Estuarine Ecology (I)

Session Chair: Kathryn Hieb, CDFG

Protists in a Temperate Estuary: Diversity, Grazing and Consumption by Metazoans  
Gretchen C. Rollwagen-Bollens, Washington State University Vancouver

Evaluating the Role of Wetland Restoration: an Isotopic Determination of Food Web Origins Reveals that Marsh-Derived Organic Matter Supports Estuarine Marsh Food Webs in Northern San Francisco Bay  
Emily R. Howe\*, University of Washington

Aquatic Community Structure and Productivity of a Large Brackish Tidal Marsh in the Upper San Francisco Estuary  
Robert E. Schroeter\*, UC Davis

Methylmercury Concentrations in Marsh Invertebrates in Relation to the Food Web Structure of Black Rails  
Isa Woo, USGS

Indicators for the Bay: Assessing Condition of Bird Populations over Time and Across Habitats  
Anitra L. Pawley, The Bay Institute

10:10 AM

Break

(Continued on page 10)

room 306

## Migrating Fish and Rivers

### Central Valley Salmonids (II)

Session Chair: Jeff McLain,  
NOAA Fisheries

10:30 AM Individual-Based Models for Understanding Effects of Management on Salmonid Populations  
Steven F. Railsback, Humboldt State University

10:50 AM Salmon Conservation in a Changing Climate  
Peter M. Miller\*, UC Berkeley

11:10 AM Use of Mass Marking and Mark Selective Fisheries to Manage Hatchery Stocks: Lessons Learned from the Pacific Northwest  
Lars Mobrand, Jones and Stokes Associates

11:30 AM Effects of Flow on Upstream Migration of Adult Chinook Spawners Based on Daily Weir Counts  
Brian J. Pyper, Cramer Fish Sciences

11:50 AM Restoration of Ecological Function in a Regulated and Dredged River-Floodplain: Prospects for Improving Physical and Biological Integrity on the Lower Merced River, California  
Peter W. Downs, Stillwater Sciences

12:10 PM

### Central Valley Salmonids (III)

Session Chair: Cesar C. Blanco,  
USFWS

1:10 PM An Evaluation of the Sacramento River Winter Chinook Salmon Captive Broodstock Program  
Kevin Offill, USFWS

1:30 PM San Joaquin River Fall-Run Chinook Salmon Production Model  
Dean D. Marston, CDFG

room 307

## Rivers and Wetlands

### Wetland Restoration (II): Sediment Processes

Session Chair: Robin M. Grossinger,  
SFEI

Sediment Discharge in Unregulated Streams Tributary to San Francisco and Suisun Bays and Adjoining Areas  
Barry E. Hecht, Balance Hydrologics, Inc.

Sediment Fluxes to San Pablo Bay (in the San Francisco Estuary) Marshes Past and Present  
Frances P. Malamud-Roam, UC Berkeley

Preliminary Results from the Rates and Evolution of Peat Accretion through Time (RE-PEAT) Project in the Sacramento-San Joaquin Delta, California  
Judy Z. Drexler, USGS

Two-Dimensional Hydrodynamic Simulation of Blacklock Restoration Site  
Xiaochun Wang, DWR

Seasonal Changes in DOC Character and Flux from a Tidal Wetland  
Brian D. Downing, USGS

### Wetland Restoration (III): North Bay Case Studies

Session Chair: Michelle K. Orr,  
PWA Ltd

The Feasibility of Freshwater Tidal Wetland Rehabilitation in the Delta: Calhoun Cut Ecological Preserve  
Chris B. Bowles, PWA, Ltd.

Vegetation Change in a Restoring Tidal Marsh: A Remote Sensing Approach  
Karin A. Tuxen\*, UC Berkeley

room 308

## Long-Term Challenges

### Climate Change(II): CALFED's Climatic Future

Session Chair: Jamie D. Anderson,  
DWR

California Climate Scenarios Analysis: A Project Overview  
Amy L. Luers, Union of Concerned Scientists

Projected Sea Level Rise along the California Coast and in the Bay/Delta  
Daniel R. Cayan, Scripps Institution of Oceanography, UCSD

Projecting Inundation Due to Sea Level Rise in the San Francisco Bay and Delta  
Noah Knowles, USGS

Warm Storms in a Warmer World and Floods from the Sierra Nevada  
Michael D. Dettinger, USGS

Climate Change Impacts on Evapotranspiration in California  
Roy M. Peterson Jr., DWR

### Climate Change(III): DWR/USBR Responses to Climate Change

Session Chair: Francis Chung, DWR

California Climate Change—A Historical Perspective  
Michael L. Anderson, DWR

Preliminary Climate Change Impacts Assessment for SWP and CVP Operations  
Daniel J. Easton, DWR

room 314

## Water and Sediment Quality

### Pyrethroids: Laboratory Methods & Environmental Effects (II)

Session Chair: Debra Denton, US EPA

Piperonyl Butoxide: Friend and Foe. A Tool to Identify Pyrethroid Toxicity in Field Sediments and Real-world Exposure Implications of Large-scale Applications to Control West Nile Virus  
Erin L. Amweg, UC Berkeley

Temperature Dependence of Pyrethroid Toxicity: TIE Applications and Environmental Consequences  
Donald P. Weston, UC Berkeley

Recent Advances in Sediment Toxicity Identification Evaluations Emphasizing Pyrethroid Pesticides  
Bryn M. Philips, UC Davis

An Overview of Effects of Pyrethroid Insecticides on Fish  
Inge B. Werner, UC Davis

### Panel Discussion

Pyrethroids: Laboratory Methods & Environmental Effects  
Moderator: Debra Denton, US EPA

room 315

## Science and Management

### Estuarine Ecology (II)

Session Chair: Randall D. Baxter,  
CDFG

Flow-Abundance Relations for Delta Smelt  
Gonzalo C. Castillo, USFWS

Linkages between Fall Salinity, Delta Outflow and Delta Smelt Population Decline  
Marianne Guerin, CCWD

Swimming to the San Francisco Estuary: Examining Fish-X2 Relationships with a Computer Simulation  
Renny S. Talianchch\*, San Francisco State University/Romberg Tiburon Center

A Novel Method to Develop an Otolith Microchemistry Model to Determine Striped Bass Habitat Use in the San Francisco Estuary  
Corey C. Phillis, UC Berkeley

The Impact of Mercury Bioaccumulation on the Fishing Beneficial Uses in California Water-bodies: A Review of Historic and Recent Data  
J. Letitia Grenier, SFEI

### Non-Point Source Pollution

Session Chair: Jeanette E. Wysinski,  
Yolo County Resource Conservation District

Agricultural Sources of Steroid Hormones in Surface Waters  
Edward P. Kolodziej, UC Berkeley

Impact of Conservation Tillage and Cover Crops on Agricultural Runoff Water Quantity and Quality  
William R. Horwath, UC Davis

### Fish Physiology

Session Chair: Robert W. Fujimura,  
CDFG

Adult Hardhead Minnow and Rainbow Trout Temperature Preference in a Large, Annular Apparatus  
Dennis E. Cocherell, UC Davis

The Effects of Temperature on Sacramento Perch: Implications for Conservation and Restoration  
Christa M. Woodley\*, UC Davis

Lunch



1:50 PM	<b>Assessing Chinook Salmon Escapement in Mill Creek Using Acoustic Technologies</b> Peter N. Johnson, LGL Limited Environmental Research Associates	<b>Annual and Seasonal Variation in Species Assemblages in Created and Restored Estuarine Wetland Habitat in the Napa River, California</b> Scott D. Wilcox, Stillwater Sciences	<b>Preliminary Climate Change Impacts Assessment for the Sacramento-San Joaquin Delta</b> Jamie D. Anderson, DWR	<b>Benefits of Vegetated Agricultural Drainage Ditches (VADD) as a Best Management Practice in Yolo County, California</b> Jeanette E. Wrysinski, Yolo County Resource Conservation District	<b>The Influence of Neighbors on the Swimming Patterns of Individual Moronids along a Behavioral Barrier: Implications for Salvage Efficiency</b> Bertrand H. Lemasson*, Utah State University
2:10 PM	<b>Advances in Studying Chinook Salmon Smolt Migration in the Delta Using Acoustic Telemetry</b> David A. Vogel, Natural Resource Scientists, Inc.	<b>Liberty Island: the Continued Transformation from Agriculture to Diverse Delta Habitats</b> Randell C. Mager, California Department of Natural Resources	<b>Ensemble Analysis of Climate Change Impacts for Central Valley Project and State Water Project Operations</b> Alan Harrison, USBR	<b>Large-scale Ecosystem Study of Algae Biokinetics as a Function of Non-point Source Discharge</b> William T. Stringfellow, University of the Pacific	<b>Acute Mortality and Injury of Delta Smelt Associated with Collection, Handling, Transport, and Release at the State Water Project's Fish Salvage Facility</b> Jerry A. Morinaka, CDFG
2:30 PM	<b>Challenges in Using Field Data to Validate Models of Juvenile Salmon Movement through the Delta</b> Annjanette M. Dodd	<b>The Promise and the Challenge of Adaptive Management in Wetland Restoration: Dutch Slough Restoration in the Sacramento-San Joaquin Delta</b> Michelle K. Orr, PWA, Ltd.	<b>Weighted Estimation of Climate Projection Distributions over California</b> Levi D. Brekke, USBR	<b>Simulation of Conjunctive Water Use in the Central Valley using the Farm Process for MODFLOW</b> Randall T. Hanson, USGS	<b>Fish Predation in the Collection, Handling, Transport, and Release Phase of the State Water Project's Fish Salvage Facility</b> Geir A. Aasen, CDFG
2:50 PM	<div> <div></div> <div>Break</div> <div></div> </div>				
	<b>Central Valley Salmonids (IV)</b> Session Chair: David H. Hu, USFWS	<b>Wetland Restoration (IV): Monitoring and Modeling Faunal Responses</b> Session Chair: Michelle K. Orr, PWA Ltd.	<b>Long-Term Options for the Delta: Scientific Insights and Management Approaches</b> Session Chair: Ellen Hanak, PPIC	<b>Managing Contaminated Sediments</b> Session Chair: Michael S. Connor, SFEI	<b>Riparian Habitat Restoration</b> Session Chair: Thomas F. Griggs, River Partners
3:10 PM	<b>Chromosomal Rearrangements in 'Apparent' Sex-Reversed Fall Chinook Salmon in California</b> Kevin S. Williamson, NOAA Fisheries/NW Fisheries Science Center	<b>Community Structure and Population Dynamics of the Fish and Invertebrates in the Rush Ranch Reserve (SFB - NERR)</b> Robert E. Schroeter*, UC Davis	<b>Bringing Science Beyond the Peripheral Canal</b> Jay Lund, UC Davis	<b>The Good, the Bad and the Muddy: Creating Wetlands using Dredged Sediments: Lessons Learned from the First Three Years of Operation at the Montezuma Wetlands Project, Suisun Marsh</b> Roger D. Leventhal, FarWest Restoration Engineering	<b>Quantifying Vegetation Loss on the Sacramento River: a Case Study Comparing Future and Past Impacts</b> Alexander K. Fremier*, UC Davis
3:30 PM	<b>Post-spawn Movement and Iteroparity of Hatchery-Origin Steelhead</b> Robert E. Null, USFWS	<b>Integrated Waterbird Monitoring at South Bay Salt Pond Systems</b> Nicole D. Athearn, USGS	<b>Risk Analysis Approach to Delta and Suisun Marsh</b> Martin W. McCann Jr., Jack R. Benjamin & Associates, Inc.	<b>Rapid and High Resolution Contaminant Distributions in Estuarine Sediments for Characterization and Historical Assessment</b> Bryce E. Johnson, UC Berkeley	<b>Integrating Field and Experimental Data to Model Recruitment of Cottonwood and Willow Seedlings in the San Joaquin Basin, California</b> John C. Stella*, UC Berkeley
3:50 PM	<b>A Preliminary Investigation of How Habitat Heterogeneity Affects Community Dynamics and Sensitive Species of the Mokelumne River, CA</b> Walter E. Heady*, UC Santa Cruz	<b>Use of South Bay Shoals by Shorebirds: Potential Effects of Invasive Spartina and Sediment Loss</b> John Y. Takakawa, USGS	<b>Plotting the Course for Delta Ecosystem Restoration: Evaluating and Prioritizing Restoration Actions in a Changing Landscape</b> Christina Swanson, The Bay Institute	<b>Application of Activated Carbon Amendment for In-situ Stabilization of PCBs in Sediment: Field-Scale Studies</b> Yeo-Myoung Cho*, Stanford University	<b>Vegetating Levees for Protection and Wildlife Habitat</b> Tamara D. Sperber, River Partners
4:10 PM	<b>Development of Habitat Suitability Criteria for Macroinvertebrate Community Metrics for Use in Instream Flow Studies</b> Mark F. Gard, USFWS	<b>California Clapper Rails in SF Bay: Modeling Habitat Relationships at Multiple Scales to Guide Habitat Restoration and Eradication of Non-native Spartina</b> Hildie N. Spautz, Olofson Environmental, Inc. & Invasive Spartina Project	<b>Future Adaptability to a Repeat of an Extreme Medieval Drought</b> Julien Harou*, UC Davis	<b>Peyton Slough Remediation—Design and Construction Innovations</b> Mary Brown, Rhodia Inc.	<b>Do Small Mammal Pest Species' Impacts Increase on Farms When Adjoining Lands are Converted to Riparian Habitat?</b> Gregory H. Golet, The Nature Conservancy
4:30 PM	<b>Reduced Juvenile Productivity of Fall Chinook in Clear Creek</b> Matthew R. Brown, USFWS	<b>Predictive Models of the Demographic Response of Tidal-Marsh Birds to Vegetation, Geomorphology and Surrounding Land-use in the San Francisco Estuary</b> Nadav Nur, PRBO Conservation Science	<b>East San Joaquin Water Quality Framework</b> Lisa S. Hunt, URS Corporation	<b>Peyton Slough Remediation: More than Just Your Ordinary Restoration Project</b> Francesca C. Demgen, URS Corporation	<b>A Test of a Flood-Neutral Riparian Revegetation Design</b> Thomas F. Griggs, River Partners
4:50 PM	<div> <div></div> <div>Adjourn</div> <div></div> </div>				

# Poster Sessions

## Poster Clusters

### Foodweb Support for the Threatened Delta Smelt:

#### Summary of Program Objectives and Preliminary Results

Anne M. Slaughter, Romberg Tiburon Center, SFSU

#### The Effects of Salinity on Phytoplankton and Dissolved Organic Carbon Availability

Risa A. Cohen, Georgia Southern University

#### The Role of Excess Ammonium in Reducing Phytoplankton in San Francisco Estuary

Victoria E. Hogue, Romberg Tiburon Center, SFSU

#### Growth and Development of *Limnithona tetraspina*, the Most Abundant Copepod in the Estuary

Toni R. Ignoffo, Romberg Tiburon Center, SFSU

#### Phytoplankton Production within the Low Salinity Zone

Ulrika E. Lidstrom\*, Romberg Tiburon Center, SFSU

#### Evaluating the Potential Contribution of Bacterial Carbon for Higher Trophic Levels

Alexander E. Parker, Romberg Tiburon Center, SFSU

#### Grazing Potential of *Corbula amurensis* on Lower Trophic Level

Janet K. Thompson, USGS

#### Microzooplankton Dynamics in the Low Salinity Zone of the San Francisco Estuary

Joanna K. York, University of Connecticut

### Habitat Management, Preservation, and Restoration Plan for Suisun Marsh

#### Overview: Habitat Management, Preservation, and Restoration Plan for Suisun Marsh

Gina S. Van Klompenburg, CDFG

#### Suisun Marsh Tidal Marsh Wetland Conceptual Model

Janice Engle, USFWS

#### Water Quality Conceptual Model: Mercury, Organic Matter, and Scalar Transport

Cassandra Enos, DWR

### Blacklock Restoration Project

Terri L. Gaines, DWR

#### Science Integration Strategy

Stuart W. Siegel, Wetlands and Water Resources, Inc.

#### Suisun Marsh Levee Conceptual Model

Jim Sung, DWR

#### Hill Slough West Tidal Restoration Project

Gina S. Van Klompenburg, CDFG

#### Managed Wetlands Conceptual Model

Gina S. Van Klompenburg, CDFG

### Hyperspectral Remote Sensing: A Powerful Tool to Monitor and Study the Sacramento-San Joaquin Delta

#### Hyperspectral Remote Sensing: A Powerful Tool to Monitor and Study the Sacramento-San Joaquin Delta

Margaret E. Andrew, California Space Institute Center of Excellence

#### Mapping Perennial Pepperweed with Hyperspectral Imagery of the Sacramento-San Joaquin Delta

Margaret E. Andrew\*, California Space Institute Center of Excellence

#### The Carnegie Airborne Observatory: Hyperspectral and LIDAR Mapping of California Ecosystems and the Environment

Gregory P. Asner, Carnegie Institution

#### Mapping Turbidity and Trophic Transitions in the Sacramento-San Joaquin River Delta Using Hyperspectral Imagery

Erin L. Hestir\*, California Space Institute Center of Excellence

#### Change Detection of Water Hyacinth and *Egeria* before and after Herbicide Applications in the Sacramento-San Joaquin Delta in California

Shruti Khanna\*, California Space Institute Center of Excellence

#### Identifying *Egeria* and Water Hyacinth Infestations in the Sacramento-San Joaquin Delta

Sepalika S. Rajapakse, California Space Institute of Excellence

### Physical Modeling to Guide River Restoration

#### Physical Modeling to Guide River Restoration Projects: An Overview

Scott R. Dusterhoff, Stillwater Sciences

#### Modeling Meandering Streams in Laboratory Flumes

Christian A. Braudrick\*, UC Berkeley

#### Fine Sediment Infiltration into Gravel Deposits: Flume Experiments, Theory and Applications to Dam Removal and Gravel Augmentation Projects

Yantao Cui, Stillwater Sciences

#### Sediment Pulse Propagation in Flume Experiments Simulating Gravel Augmentation in Armored Channels Downstream of Dams

Jessica E. Fadde\*, SFSU

#### Experimental Study of Gravel Augmentation Pulse Movement During Variable Flows

Robert Humphries\*, SFSU

#### Quantifying Channel Response to Variable Flow in a Meandering River Model

Glen Leverich\*, SFSU

#### Response of Bed Surface Patchiness to Reductions in Sediment Supply

Peter A. Nelson\*, UC Berkeley

### Integrated Regional Wetland Monitoring (IRWM)

#### Integrated Regional Wetland Monitoring Pilot Project—Overview

Stuart W. Siegel, Wetlands and Water Resources, Inc.

#### The Community Structure of Tidal Wetland Fishes in the Northern San Francisco Estuary: Summary of Results from the Integrated Regional Wetland Monitoring (IRWM) Pilot Project

Darren S. Gewant, Washington State University Vancouver

#### Pickleweed Productivity Influenced by within Marsh Location Rather than Position along a Regional Salinity Gradient

Lisa M. Schile, SFSU

#### IRWM Physical Processes Monitoring in Restored and Reference Tidal Marshes

Stuart W. Siegel, Wetlands and Water Resources

### Change in Tidal Marsh Vegetation Measured by Spatial Landscape Metrics

Karin A. Tuxen\*, UC Berkeley

### Pelagic Organism Decline

#### The Environmental Monitoring Program and the Development of its Benthic Biomass Component

Karen A. Gehrts\*, DWR

#### Grow or Die: Trends in Growth of Pelagic Fishes of the Upper San Francisco Estuary

Randall D. Baxter, CDFG

#### Phytoplankton in the Delta and Suisun Bay: Current Conditions and Trends

Alan D. Jassby, UC Davis

#### Long-term Trends of Delta Residence Time

Michael D. Mierzwa, DWR

#### Long-Term Change in Summertime Habitat for Pelagic Fishes in the San Francisco Estuary

Matthew L. Nobriga, DWR

#### The Pelagic Organism Decline and Long-Term Trends in Sacramento-San Joaquin Delta Hydrodynamics

Catherine A. Ruhl, USGS

#### Interannual Food Habits of Pelagic Fishes in the San Francisco Estuary

Steven B. Slater, CDFG

#### Assessing Health Status of Inland Silverside and Striped Bass in the Upper San Francisco Estuary

Swee Joo Teh, UC Davis

#### Understanding the Effects of SWP Exports on Fishes in the Sacramento-San Joaquin Delta: How Does the “Big Gulp” Influence Entrainment?

Nicholas L. Van Ark\*, DWR

#### Do I Look Fat to You? Determining the Condition of Pelagic Fishes in the Upper San Francisco Estuary

Samantha H. Vu, CDFG

#### Using Particle Tracking to Indicate Delta Residence Time

Jim S. Wilde, DWR

### San Francisco Bay National Estuarine Research Reserve (NERR) Monitoring

#### SF Bay NERR System Wide Monitoring Program—Ocean Observing in Coastal and Inland Waters

Jessica Schneider, SF Bay NERR

#### Wetland Vegetation Mapping and Habitat Change within the San Francisco Bay National Estuarine Research Reserve at China Camp and Rush Ranch

Diana Benner, SFSU

#### Comparison of the Demography of Suisun and San Pablo Song Sparrows at Two San Francisco Bay NERR Sites

Leonard X. Liu, PRBO Conservation Science

#### Crab Monitoring in the San Francisco Bay National Estuarine Research Reserve—A Pilot Study

Drew M. Talley, SF Bay NERR

#### The Past, Present, and Future Estuary—Monitoring in the San Francisco Bay National Estuarine Research Reserve

Drew M. Talley, SF Bay NERR

### Survival and Migratory Patterns of Central Valley Salmonids

#### Survival and Migratory Patterns of Central Valley Juvenile Salmonids

A Peter Klimley, UC Davis

#### Effect of Dummy Ultrasonic Tags on Swimming Performance and Growth of Juvenile Steelhead Trout

Arnold J. Ammann, NOAA Fisheries

#### Estimating Survival and Migration of Coded-wire and Ultrasonic Tagged Late-fall Chinook Smolts During their Passage through the Delta of the Sacramento-San Joaquin Watershed

Patricia L. Brandes, USFWS

#### Juvenile Salmonid Outmigration and Distribution Studies in San Francisco Bay

William N. Brostoff, U.S. Army Corps of Engineers

#### Bay Planning Coalition: A Partner in Tagging Study of Salmon Smolt Migration through San Francisco Bay

Ellen J. Johnck, Bay Planning Coalition



# Poster Sessions

**The Range of Detection of Coded Ultrasonic Tags by Automated Monitors in the Sacramento–San Joaquin Watershed**  
Phil T. Sandstrom, UC Davis

**Migration Rates of Steelhead and Late-fall Chinook Salmon through the Sacramento River from Coded-wire Tag Data**  
Liberty L. Schilpp, NOAA Fisheries

## Yolo Bypass and Floodplain Management

**Mosquito Best Management Practices on the Yolo Basin Wildlife Area**  
John A. Fritz, Sacramento–Yolo Mosquito & Vector Control District

**Are all Floodplains Created Equal? Not According to the Fish Communities of Yolo and Sutter Bypasses!**  
Frederick Feyrer, DWR

**Results of the Pilot Sediment Study in Northern Yolo Bypass**  
Trevor C. Greene, DWR

**Adults Only: Fish Spawning, Migration and Residency on California's Yolo Bypass Floodplain**  
William C. Harrell, DWR

**Comparison of the Yolo Bypass Floodplain and Liberty Island Tidal Wetland as Producers of Carbon for the Estuary Downstream**  
Peggy W. Lehman, DWR

**Riparian Songbird Monitoring in the Yolo Bypass**  
Ronald E. Melcer, Jr., UC Davis Museum of Wildlife and Fish Biology

**Benthic Invertebrate Sampling in Liberty Island**  
Tanya C. Veldhuizen, DWR

## General Sessions

### Avian Investigations

**Foraging Areas and Sex Difference in Space Use of Forster's Terns in the South San Francisco Bay**  
Jill D. Bluso\*, Humboldt State University

**Space Use and Foraging Patterns of American Avocets in South San Francisco Bay**  
Scott A. Demers, Humboldt State Univ.

**Effects of California Gulls on Nesting Forster's Tern Behavior**  
Aidona O. Kakouros\*, SJSU

**Wintering Survival of Pacific Surf Scoters on San Francisco Bay**  
Matthew T. Wilson\*, UC Davis

### Fish Protection

**Delta Smelt Stress at the State Water Project's Fish Salvage Facility: A Sneak Preview of the Effect of Collection, Handling, Transport and Release**  
Virginia B. Afentoulis, CDFG

**Fishery Benefits of the Battle Creek Interim Flow Program**  
Naseem O. Alston, USFWS

**The Long-term Effects of Turbidity on Feeding and Growth of Delta Smelt Larvae**  
Bradd L. Baskerville-Bridges, UC Davis

**Results of a Two-Year Fish Entrainment Study at Morrow Island Distribution System in Suisun Marsh**  
Cassandra Enos, DWR

**One Fish, Two Fish, Bait Fish: Threadfin Shad the Nets Once Had**  
Frederick Feyrer, DWR

**Chinook Spawning Area Mapping for the Clear Creek Restoration Program, 2000–2005**  
Sarah L. Giovannetti, USFWS

**Trout Behavior and Responses to Pulsed Flows: Investigations Utilizing Electromyogram Telemetry**  
S.A. Hamilton, UC Davis

**Spatial and Temporal Distribution Patterns of Pacific and River Lamprey in the Sacramento and San Joaquin Rivers and Delta**  
Jason Hanni, USFWS

**Genetic Differentiation and Founder Effects in Remaining Populations of Sacramento Perch**  
Rachel S. Schwartz\*, UC Davis

**Diel Activity Patterns of Fishes of Special Interest in the Sacramento–San Joaquin River Delta**  
Heather D. Webb, USFWS

**The Effect of Temperature Stress on Development and Heat-shock Protein Expression in Larval Green Sturgeon (*Acipenser medirostris*)**  
Inge Werner, UC Davis

**Effects of Disturbance on Fish Communities at Boat Ramps in the Sacramento–San Joaquin River Delta**  
Rick M. Wilder, USFWS

**A Comprehensive Model for Species Reintroduction and its Application to Species of Special Concern: Sacramento Perch**  
Christa M. Woodley\*, UC Davis

### Fish Protection—Contaminants

**Effect of Dietary Methylmercury and Seleno-Methionine on Sacramento Splittail Larvae**  
Dong Fang Deng, UC Davis

**Selenium Depuration: Residual Effects of Dietary Selenium on Sacramento Splittail (*Pogonichthys macrolepidotus*)**  
Dong Fang Deng, UC Davis

**Expression of Sublethal Stress Response Genes in Striped Bass as Indicators for Exposure to Contaminants**  
Juergen P. Geist, UC Davis

**Evaluation of Contaminants and Endocrine Disruption in the Sacramento–San Joaquin Estuary**  
Catherine S. Johnson, USFWS

**Green Sturgeon Blood-Oxygen Equilibria: The Effects of Carbon Dioxide, Temperature, and Methylmercury**  
Robert C. Kaufman, UC Davis

**Gene Expression Profiling of Androgenic and Antiandrogenic Endocrine Disrupting Chemicals on Qurt Medaka (*Oryzias latipes*) Fish**  
Abimael León-Cardona\*, UC Davis

### Integrating Science and Management

**Progress on Incorporating Climate Change into Management of California's Water Resources**  
Jamie C. Anderson, DWR

**The Napa River Project: Putting Integrated Design to the Test**  
Elizabeth S. Andrews, PWA, Ltd.

**Local Scale Game-theoretic and Landscape Scale Agent-based Models of Social Conflict for Restoration of the Sacramento River**  
Mark C. Buckley\*, UC Santa Cruz

**Delta LTMS: A Long Term Management Strategy for Delta Sediments**  
Jessica L. Burton Evans, U.S. Army Corps of Engineers

**The San Francisco Bay National Estuarine Research Reserve's New Coastal Training Program: Integrating Science and Management to Improve the Health of the Estuary**  
Sarah B. Davies, San Francisco Bay NERR

**The Clearinghouse for Dam Removal Information**  
Alicia N. Gilbreath\*, UC Berkeley Water Resources Center Archives

**A Comprehensive Economic and Environmental Framework Tool to Fully Assess the Benefits and Costs of Desalination**  
Brent M. Haddad, UC Santa Cruz

**Improve Agricultural Management Practices for Soil and Water Conservation**  
Zahangir Kabir, UC Davis

**Landscape Effects of Restoration on Pests and Pest-control on the Sacramento River**  
Suzanne M. Langridge\*, UC Santa Cruz

**At-Risk Species Recovery in Vernal Pool Ecosystems and Steps to Meeting CALFED Milestones**  
Niall F. McCarten, Environmental Science Associates

**CALFED Science Fellows Program**  
Shauna Oh, California Sea Grant

**Unsteady Drainage**  
Isidor J. Storchenegger, University of Rostock

**Partners in Restoration and Agriculture I: Solutions to Prevent Increased Regulatory Constraints on Neighboring Farms while Achieving Restoration Goals**  
Kristen M. Strohm, EDAW, Inc.

**Partners in Restoration and Agriculture II: Solutions to Prevent Increased Crop Damage from Wildlife on Neighboring Farms while Achieving Restoration Goals**  
Kristen M. Strohm, EDAW, Inc.

**Assessing Pickleweed Recovery at Four Levels of ATV Use**  
Isa Woo, USGS

**The Role of Urban Forest in Urban Watershed Restoration and Protection**  
Qingfu Q. Xiao, UC Davis

### Invasive Species

**Introduction of the Siberian Prawn to Sacramento/San Joaquin Delta**  
Tiffany N. Brown, DWR

**Forecasting the Rate of Spread of *Lepidium latifolium* Using Model Scenario Testing**  
Samuel P. Leininger\*, UC Davis

### Levees

**Current Corps of Engineers Project Studies in the Delta**  
Scott P. Miner, U.S. Army Corps of Engineers

**Efficient and Reliable Flooding of Salt Grassland and Polders**  
Isidor I.J. Storchenegger, University of Rostock

### Mercury

**Gull Predation on American Avocet and Black-necked Stilt Chicks in the South San Francisco Bay**  
Josh T. Ackerman, USGS

**Photo-degradation of Methyl Mercury in the Sacramento–San Joaquin Delta, California**  
Amy A. Byington\*, Moss Landing Marine Laboratories, SJSU

**Atmospheric Mercury Speciation and Wet and Dry Deposition Fluxes in Central California**  
Key-Young Choe, Battelle Marine Sciences Laboratory

**Marshes as Sources of Monomethylmercury in the San Francisco Bay Estuary and Delta, California**  
Key-Young Choe, Battelle Marine Sciences Laboratory

**Methyl Mercury Concentrations and Loads in the Sacramento River Basin**  
Chris G. Foe, CVRWQCB

**Methyl Mercury Concentrations and Loads in the San Joaquin River Basin**  
Chris G. Foe, CVRWQCB

**Methyl Mercury Loads in the Yolo Bypass**  
Chris G. Foe, CVRWQCB

(Continued on page 14)

# Poster Sessions (Continued)

## A 350 Year Geochronological Assessment of Atmospheric Mercury Deposition in California: Implications for Preanthropogenic Biotic Exposure

Rhea D. Sanders\*, Moss Landing Marine Laboratories

## Methyl Mercury Production in Two California Delta Freshwater Ponds

Elizabeth R. Sassone\*, Moss Landing Marine Laboratories

## Is Biotic Methyl Mercury Decoupled from Bulk Inorganic Mercury Loading In A Mine-dominated Ecosystem (Clear Lake, California)?

Tom H. Suchanek, USGS

## Mercury-Wildlife Exposure and Monitoring

### Effects of Mercury on Growth Rates of Forster's Tern Chicks in San Francisco Bay

Josh T. Ackerman, USGS

### Mercury Accumulation in Black-necked Stilt Chicks in San Francisco Bay

Josh T. Ackerman, USGS

### Mercury Concentrations and Space Use of Pre-breeding American Avocets and Black-necked Stilts in San Francisco Bay

Josh T. Ackerman, USGS

### Hg Concentrations in Chicks versus Adult Avocet and Stilts: Spatially Explicit Bioaccumulation Inferred via Radio Telemetry

Collin A. Eagles-Smith, USFWS

### Hg Correlations Among 6 Tissues in 4 Species of Waterbirds Vary by Season and Taxa

Collin A. Eagles-Smith, USFWS

### Mercury Concentrations Vary Among Waterbird Foraging Guilds and Locations in San Francisco Bay

Collin A. Eagles-Smith, USFWS

### Changes in Diets and Mercury Bioaccumulation of Near-Shore Fishes in Clear Lake, California Resulting from the Invasion of a Planktivorous Fish

Collin A. Eagles-Smith\*, USFWS

### Mercury In Fish From A Mine-dominated Ecosystem (Clear Lake, California)

Tom H. Suchanek, USGS

## Space Use and Methylmercury Concentrations in California Black Rails along the Petaluma River, CA

Danika C. Tsao Melcer\*, USGS

## Methylmercury Concentrations in Marsh Invertebrates in Relation to the Food Web Structure of Black Rails

Ilsa Woo, USGS

## Monitoring: Programs and Methodologies

### Continuous In-situ Monitoring of Eastern San Francisco Bay

Brandy M. Barnett\*, CSU East Bay

### Real-Time Monitoring of Organic Carbon and Selected Anions in the Sacramento/San Joaquin River Delta System

David A. Gonzalez, DWR

### Long-term Trends in Species Richness of Native and Non-native Fish in the Nearshore Communities of the Sacramento and San Joaquin River Delta

Jason R. Hanni, USFWS

### Advantages of Equivalence Testing in Environmental Assessments

Murage M. Ngatia, DWR

### Determining the Effects of Environmental Variables on Reach-specific Survival Rates of Salmonid Smolts

Thomas E. Pearson, Institute of Marine Science

### Development of Genomic Tools for *Daphnia magna* and Their Potential Application for Water Quality Monitoring in California

Helen C. Poynton, UC Berkeley

### The MWQI Real-Time Data and Forecasting Project (RTDF)

Theodore J. Swift, DWR

### Spatial Tidal Datum Calculation

Bradley S. Tom, DWR

### Revision of the EMP Micro-zooplankton Sampling Methods

Tanya C. Veldhuizen, DWR

## Physical Processes, Sediments, and River Restoration

### Trends in Suspended Sediment Input to the Bay from Local Tributaries

Setenay E. Bozkurt, PWA, Ltd.

## Tracking Hydraulic Mining Debris from the Sierra Piedmont

Eric F. Buer\*, University of Washington

## Field Measurements of River Bank Erodibility Along the Sacramento River

Candice R. Constantine\*, UC Santa Barbara

## Simulating Sediment Transport Following Dam Removal

Yantao Cui, Stillwater Sciences

## Evaluating Functional Flows to Prioritize the Restoration of Spawning Habitat Geomorphic Units within and between Rivers

Marisa I. Escobar\*, UC Davis

## Historic Bathymetric Change in South San Francisco Bay: Is There Enough Sediment Available to Restore the Salt Ponds?

Amy C. Foxgrover, USGS

## Sediment Deposition, Erosion, and Bathymetric Change in Central San Francisco Bay: 1855–1983

Theresa A. Fregoso, USGS

## Observations of Circulation, Stratification, and Turbulence in a Freshwater Tidal River

James L. Hench, Stanford University

## Flume Study of the Long-term Effects of Dams on Downstream Rivers

J. Toby Minear\*, UC Berkeley

## Construction Constraints on Regulated Gravel-bed River Rehabilitation

April M. Sawyer\*, UC Davis

## Investigating the Role of Large Woody Materials to Aid River Rehabilitation in a Regulated California River

Anne E. Senter\*, UC Davis

## Mobilization of Armored Gravel Beds by Pulses of Fine Gravel

Jeremy G. Venditti, UC Berkeley

## Water and Sediment Quality

### Water Quality in the Salt Ponds and Effects of Pond Discharges on Receiving Waters

Nicole D. Athearn, USGS

### Analysis of Water Quality Data from South San Francisco Bay

Mitchell S. Craig, CSU East Bay

## Organic Carbon Loading from a Delta Peat Island

Carol L. DiGiorgio, DWR

## A Brief Summary of 15 Years of Discrete Water Quality Data Collected by the Municipal Water Quality Investigations Program, Department of Water Resources

Fengmao Guo, DWR

## Microbial Signatures of Neutral and O-Methyl Carbohydrates in the Sacramento River/San Joaquin River Delta

Peter J. Hernes, UC Davis

## Salt Marsh Sediment Quality Assessment with Integration of Multiple Lines of Evidence

Hyun-Min H. Hwang, UC Davis

## Surface Water Nitrogen Dynamics in the Agricultural Willow Slough Watershed, California

Sandrine Journet, UC Davis

## Seasonal and Spatial Changes in Organic Matter and Nitrate Sources in the San Joaquin River

Carol Kendall, USGS

## Efficacy of Wetlands to Improve Water Quality of Runoff from Irrigated Pastures

Allison K. Knox\*, UC Davis

## Biogeochemical Processes in the State Water Project: Insight from Isotopic Analyses

Tamara E.C. Kraus, USGS

## Changes in Natural Organic Matter Concentration and Composition within the State Water Project: Implications for Disinfection By-Product Formation Potentials

Tamara E.C. Kraus, USGS

## Characterizing Sediment Contamination and Potential Ecological Effects in Six Tributaries of the San Francisco Bay Estuary

Sarah Lowe, SFEI

## Dissolved Oxygen Monitoring in the Stockton Ship Channel

Brianne P. Noble, DWR

## Effects of Prescribed Fire on Nutrient Levels in Oak Woodland Soils

Anthony T. O'Geen, UC Davis

## Water Quality Monitoring in Constructed Wetlands in the San Joaquin Valley

Anthony T. O'Geen, UC Davis

## Weekly Estimates of Planktonic Respiration Rates for Central San Francisco Bay and Implications for Autotrophic-Heterotrophic Balance

Alexander E. Parker, Romberg Tiburon Center, SFSU

## Toxic Potential of PAHs in San Francisco Estuary Sediments

John R.M. Ross, SFEI

## Quantifying Ground-water Input of Nutrients and Dissolved Organic Carbon to the San Joaquin River

Ann D. Russell, UC Davis

## Differentiating Sources of Dissolved Organic Matter in the Sacramento-San Joaquin Delta Using Carbon, Nitrogen, and Sulfur Isotopes

Steven R. Silva, USGS

## Near Real-Time Monitoring of Quality Parameters during a Controversial Dredging Program

Mark A. Sutton, Dixon Marine Services Inc

## Diel Patterns of Water Quality in the San Joaquin River, California

Emily C. Volkmar, UC Davis

## Dynamics of Actinobacteria in the State Water Project

Lisa R. Wandzell, University of Georgia

## A Water Quality Threat? Use of Pharmaceutically Active Compounds in Dairy Farms

Naoko N. Watanabe, UC Davis

## Pollutant Removal and Runoff Storage by Three Structural Soils

Qingfu Q. Xiao, UC Davis

## Steelhead Creek Drinking Water Quality Study and Watershed Assessment

Mike Zanolli, DWR

## Wetland and Riparian Habitat Restoration

### Flooded Islands Restoration Feasibility—Issues and Alternatives for Restoring Franks Tract

Debra Bishop, EDAW, Inc.

### Linkages between Geomorphic and Ecological Features in Ancient and Restoring Marshes of the San Francisco Bay and Delta Ecosystem

Jennifer L. Burke, University of Washington



# Poster Sessions

Growth and Survival of Riparian Trees Two Years after Revegetation of Graded Floodplain Dredger Tailings at the Merced River Ranch  
Zoëy E. Diggory, Stillwater Sciences

Spartina Control Impact Evaluation in Relation to California Clapper Rail

Erik K. Grijalva, San Francisco Estuary Invasive Spartina Project

Monitoring Results for Former Agricultural Fields Restored to Riparian Floodplains along the Lower Tuolumne River, CA: Inundation Patterns, Fish Utilization, and Revegetation  
Maya K. Hayden, Stillwater Sciences

Restoring Understory Riparian Forest Plant Species on the Sacramento River  
Karen D. Holl, UC Santa Cruz

How Effective Are Setbacks for Conservation of Streams and Riparian Areas?  
John C. Hunter, EDAA

Water Column Primary Productivity in the Cosumnes River Flood Plain  
Su-Fei Kuok, UC Davis

Seasonal Variation of Water and Sediment Fluxes, Browns Island, California

Megan A. Lionberger, USGS

Reactive Mercury Studies Associated with the Cosumnes River Floodplain  
Sherrie L. Wren\*, USGS

## Zooplankton Communities

Genetic Variation of an Invasive Copepod Can Provide Clues to Mode of Introduction  
Allegra L. Briggs\*, Romberg Tiburon Center, SFSU

Mating Success of *Eurytemora affinis* and its Consequence for Population Growth  
Keun-Hyung Choi, Romberg Tiburon Center, SFSU

## Registration

### Online Registration!

Participants are encouraged to register online.  
[http://science.calwater.ca.gov/conferences/sciconf\\_index.shtml](http://science.calwater.ca.gov/conferences/sciconf_index.shtml)

### Questions about registration?

Debbi Egter Van Wissekerke: 510-622-2304,  
degtervanwissekerke@waterboards.ca.gov

### Questions about the poster session?

Bellory Fong: bfong@water.ca.gov  
Jana Machula: janam@calwater.ca.gov

### Questions about the scientific program?

Mike Connor: mikec@sfei.org  
Inge Werner: iwerner@ucdavis.edu

### Registration by mail:

Complete the registration form and mail it with the fee to the San Francisco Estuary Project, 1515 Clay Street, Suite 1400, Oakland, CA 94612.

**Make check payable to SFEP/ABAG.** (510) 622-2304. (510) 622-2501 fax.

Confirmations will be sent to mail-in and faxed registrations received by the early registration deadline October 5, 2006. All on-line registrations will receive an email receipt and confirmation provided you include a valid email address when registering. Refunds for cancellation will be given if requested by October 16, 2006. For further information, please check the conference web site,  
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